What is JavaScript?

- **JavaScript (JS)** is a **programming language** mainly used to make websites **interactive**.
- Without JS, websites are just like **static posters** (only text and images).
- With JS, websites can **move, respond, and think**.

Example: When you click a button and the background color changes, that's JavaScript at work!

Where Does JavaScript Run?

- Runs directly in the **browser** (Chrome, Firefox, Edge, Safari).
- You don't need to install anything special — your browser already understands JavaScript.

How to Write JavaScript?

You can put JS code inside an **HTML page**:

```
<!DOCTYPE html>
<html>
<head>
  <title>My First JS</title>
</head>
<body>
  <h1>Hello, World!</h1>

  <button onclick="sayHello()">Click Me!</button>

  <script>
    function sayHello() {
      alert("Hello! You clicked the button!");
    }
  </script>
</body>
</html>
```

Here's what happens:

- A button is on the page.

- When clicked, JS runs the sayHello() function.
- It shows an **alert box**.

JavaScript Basics for Dummies

1. Variables (store data)

let name = "Juan";

let age = 20;

- Think of variables as **boxes** that store values.
- name box stores "Juan", age box stores 20.

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2. Data Types

- **String** → "Hello" (text inside quotes)
- **Number** → 10, 3.14
- **Boolean** → true, false

let isStudent = true;

---

3. Output (showing messages)

console.log("Welcome to JavaScript!");

alert("Hi there!");

- console.log → shows message in the browser's developer console.
- alert → shows a popup box.

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4. Operators

let x = 5 + 3; // 8

let y = 10 - 2; // 8

let z = 4 * 2; // 8

let w = 16 / 2; // 8

- Just like math: +, -, *, /

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5. Conditions (if this, do that)

let age = 18;

if (age >= 18) {

```
  console.log("You are an adult!");
} else {
  console.log("You are still a minor!");
}
```

- Checks if condition is **true** or **false**.

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6. Loops (repeat actions)

```
for (let i = 1; i <= 5; i++) {
  console.log("Count: " + i);
}
```

- Repeats 5 times.
- Output: Count: 1, Count: 2 … Count: 5

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7. Functions (reusable actions)

```
function greet(name) {
  console.log("Hello, " + name);
}

greet("Maria");
greet("Pedro");
```

- Functions are like **recipes**: once written, you can use them many times.

Real-World Example

Let’s make a **simple background color changer**:

```
<!DOCTYPE html>
<html>
<head>
  <title>Color Changer</title>
</head>
<body>
  <h1>Click the button to change background</h1>
  <button onclick="changeColor()">Change Color</button>
```

```
  <script>
    function changeColor() {
      document.body.style.backgroundColor = "lightblue";
    }
  </script>
</body>
</html>
```

When you click the button → background turns **light blue**.
This shows how JS **interacts with the webpage**.

Summary

1. JavaScript makes websites **come alive**.
2. Runs in the browser.
3. You can use **variables, conditions, loops, and functions**.
4. Real use: **popups, color changes, slideshows, form validation, games, etc.**